Title	ON THE EXISTENCE RESULTS AND ITERATIVE APPROXIMATION METHODS FOR GENERALIZED EQUILIBRIUM PROBLEMS AND FIXED POINT PROBLEMS FOR SOME CLASSES OF GENERALIZED NONEXPANSIVE MAPPINGS
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ABSTRACT

We introduce and establish the existence results for generalized equilibrium problems. We also introduce the iterative schemes for finding a common solution of fixed point problems, variational inequality problems and generalized equilibrium problems of some classes of generalized nonexpansive mappings. We obtain the following results. Firstly, we prove some existence theorems for the hemivariational inequality problems. Secondary, we introduce and obtain the existence of solutions the new generalized mixed equilibrium problem with respect to relaxed semi-monotone mappings and the generalized mixed equilibrium problem under the new conditions imposed on the given bifunction.

Furthermore, we also introduce a hybrid projection algorithm for finding a common element in the solution set of a new generalized mixed equilibrium problem(generalized mixed equilibrium problem) and the fixed point set of an asymptotically nonexpansive mapping(the common fixed point set of finite family of asymptotically nonexpansive mappings), respectively. Thirdly, we introduce the modified general iterative approximation methods for finding a common fixed point of (asymptotically)nonexpansive semigroups and establish the strong convergence theorems of our proposed algorithm in the framework of a reflexive Banach space which admits a weakly continuous duality mapping. Finally, we study Δ-convergence and strong convergence theorems of the proposed Picard, Mann, Ishikawa and Moudafi's viscosity iterative schemes for generalized hybrid mappings and nonexpansive mappings(semigroups) in complete CAT(0) spaces.